

Work Order, ID 51069

July 30, 2009 10:18:31 AM



Page 1

Item ID: D212-664-107

Accept



Setup Start



Revision ID: A

Stop



Item Name: Crosstube Low Standard Fwd

Start Date: 08/03/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/21/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: mf

Date: 09-07-30 Tooling:

Date:

Run Start



QC: _____

Date: _____ SPC (Y/N): _____

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr	Revision Nbr
D212-664-147	Rev A

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-107 CHG001

8/07/30

110

0.00



Packaging

Packaging

Memo

0.00

Packaging

9/10/30

54

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

212-664-107

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and

Folio FT010

212-107

11

DD

9-10-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51069

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Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

27 802/10/26



140

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

cut per dwg
1-Drill Rivet holes as per Dwg D212-664-147 using DT8972. 2-Drill pilot holes in tube as per Dwg D212-664-147 3-Ream hole to finish size in tube as per Dwg D212-664-147 4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-147

DP 9-10-27

AUM 9-10-27

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

1 - 0 AUM 9-10-27

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							
			27 Serials			(40)	6		
170 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
			27 Serials			(40)	6		
180 Outsource2 Outsource process - NDT	Outsource process - NDT per QSI038 4.1 Memo Liquid Penetrant Inspection as per QSI 038 Or <input type="checkbox"/> Issue P/O: 10655 LPI as per ASTM 1417 <input type="checkbox"/> Level 2 Attach copy of NDT results to work order	0.00 0.00							
						CL	R/09-10-20		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Required Date: 08/21/2009 Req'd Qty: 1.00




Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
200 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control	Inspect for damage & ensure results are as per Dwg D412-664-203								
210 	Crosstubes	0.00							
Crosstubes	Memo	0.00							
Crosstubes	1-Rivet Cuffs as per Dwg D212-664-147. with Sika flex in Between tube & Cuff Cuff A/R SIKAFLEX -241/-291 BATCH: 118391								

11/4/29

09 10 29

09 10 28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Required Date: 08/21/2009 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

220

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2 ☐ 2-Paint outside crosstube with White Imron as per QSI 005 4.2 ☐ PRIME: ☐ Start Time: 10:30 ☐ Finish Time: 11:00 ☐ PAINT: ☐ Start Time: 11:30 ☐ Finish Time: 3:30

ml 09 10 28 (1)

230

0.00



QC14- Inspect Spray Paint

QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

RT 09 10 29

240

0.00



Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1- Assemble as per Dwg D212-664-147 ☐ 2- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe ☐ 3- Instal support with magnobond 6398 per dwg D212-664-147, ☐ cure for 12hrs before packaging. ☐ Time & date of applic

ml 09 10 29 (1)

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Start Date: 08/03/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/21/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

⇒ 8/1/30

Memo

0.00

⑩

①

260



QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

⇒ 8/1/30

Memo

0.00

⑩

f

270



Packaging

Packaging

Packaging

0.00

Memo

0.00

Identify and pack for shipping as per PPP D212.664-107

A

8/1/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D212-664-107

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Stop



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Start Date: 08/03/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/21/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

N/A

0.00

Quality Control

Done at ser 260

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

*09/10/30**u 09.10.30*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

July 30, 2009 10:18:31 AM

Work Order ID: 51069

Parent Item: D212-664-107RevA

Parent Item Name: Crosstube Low Standard Fwd

Comments:

Start Date: 08/03/2009

Required Date: 08/21/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3428-1RevA

Manufactured

No

100

Each

56.0000

1.0000



Placard

9/10/3050

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

16

47310

6

48359

10

Main Warehouse

ST096

40

50790

40

D212-664-

107TRNRevA

Manufactured

No

140

Each

0.0000

1.0000



Crosstube Turning Detail

D3659-1RevB

Manufactured

No

220

Each

8.0000

2.0000



CUFF

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

8

37426

8

DP
9-10-27

B50978
9-10-26
B51163

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Work Order ID: 51069

Parent Item: D212-664-107RevA

Parent Item Name: Crosstube Low Standard Fwd


Start Date: 08/03/2009

Required Date: 08/21/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
CR3212-4-06  CHERRY RIVET		Purchased	No			240	Each	346.0000	44.0000			

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

11234
107534

346

346

ml 091028

D2893-1RevB

Manufactured

No

240

Each

72.0000

2.0000



2.75 Support

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

72

25657

6

43479

10

46488

18

47109

18

47637

20

ml 091029

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Picklist Print

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Work Order ID: 51069

Parent Item: D212-664-107RevA

Parent Item Name: Crosstube Low Standard Fwd


Start Date: 08/03/2009

Required Date: 08/21/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3595-063-450RevA  RUBBER CUSHION		Manufactured	No			240	Each	47.8000	4.0000			

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 47.8

~~38959~~ 2

43210 4.8

~~46465~~ 41

50953

ml 09 10 29

8 AN6-35A

Purchased

No

260

Each

134.0000

4.0000



BOLT

9/10/30 SP

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 134

111605 34

112314 100

4x 50

July 30, 2009 10:18:31 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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July 30, 2009 10:18:31 AM

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Comments:

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Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN6-36A Bolt		Purchased	No			260	Each	169.0000	4.0000			
-----------------	--	-----------	----	--	--	-----	------	----------	--------	--	--	--

Warehouse
Location

Main Warehouse

ST	169
109632	1
110382	18
111650	50
112314	100

9/10/30 SD

AN960JD616 Washer		Purchased	No			260	Each	1,326.000	48.0000			
----------------------	--	-----------	----	--	--	-----	------	-----------	---------	--	--	--

Warehouse
Location

Main Warehouse

ST	1326
107242	3
107959	6
109371	8
110704	23
111193	18
111607	268
112314	1000

4x SU

9/10/30 SD

18x SD

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Shop Packet Print

Page 4

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Required Date: 08/21/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21042L6 / Nut		Purchased	No			260	Each	755.0000	6.0000			

112492 9/10/30 SE

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	755	
105077	22	
110002	233	
111548	100	
111578	400	

MS21920-25

Purchased

No

260

Each

156.0000

4.0000



Clamp(per MIL-DTL-8783C)

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	156	
107456	2	
108111	3	
108975	17	
109181	48	
109644	10	
111282	50	
111429	25	
111883	1	

W/ 02 10 29

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Shop Packet Print

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

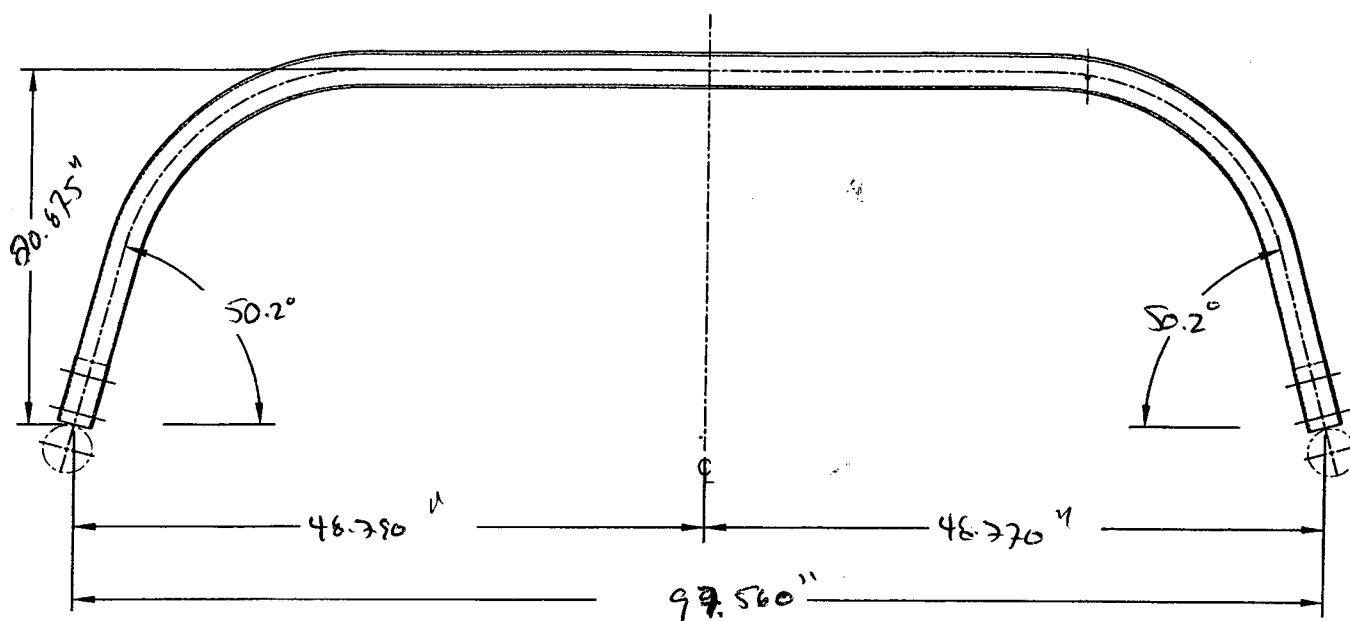
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	51069
Description: Crosstube Low Fwd (205/212/412)		Part Number:	D212-664-107
Inspection Dwg: D212-664-147 Rev: A		Page 1 of 1	

Required Dimension	Min	Max
Height	20.79	21.05
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62



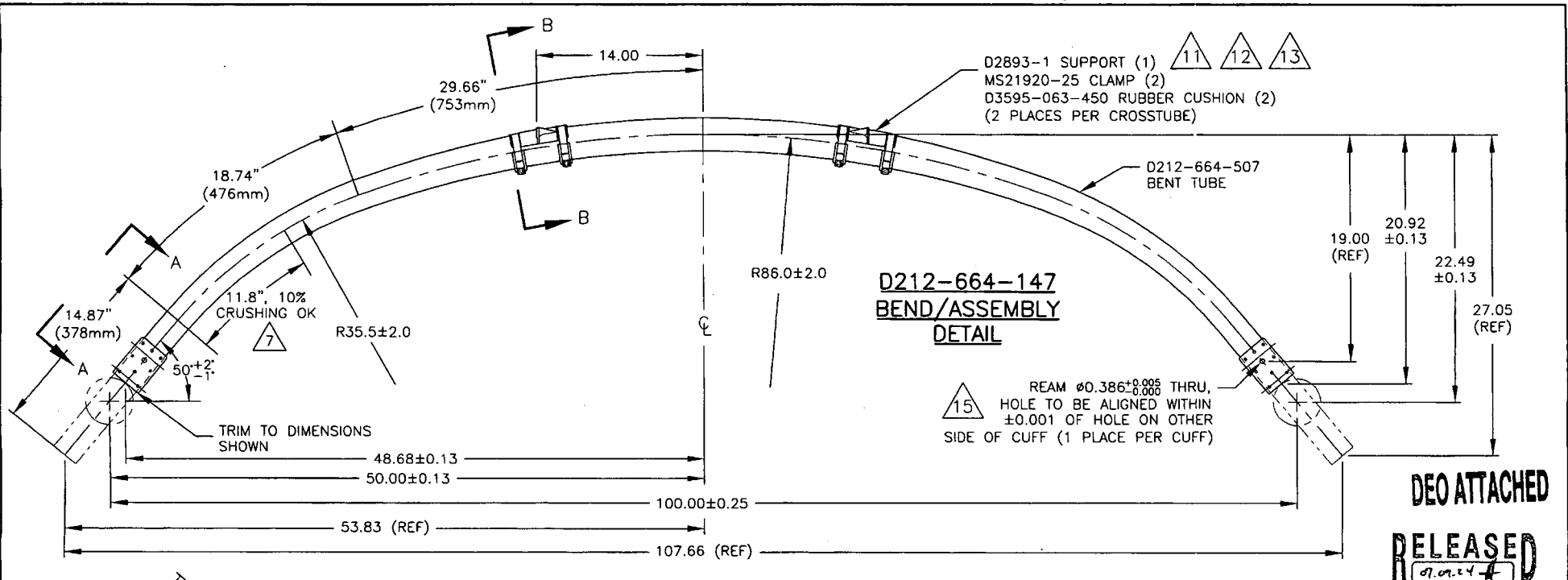
Comments

QC15 Inspection	S
Date	08/10/26

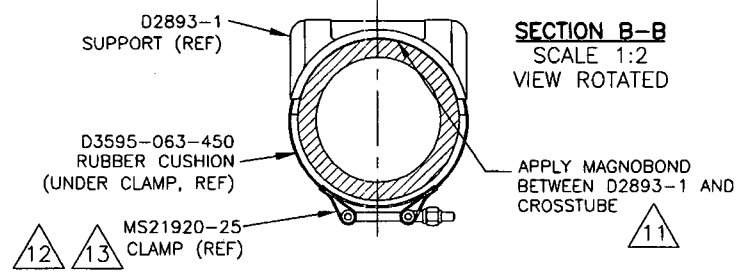
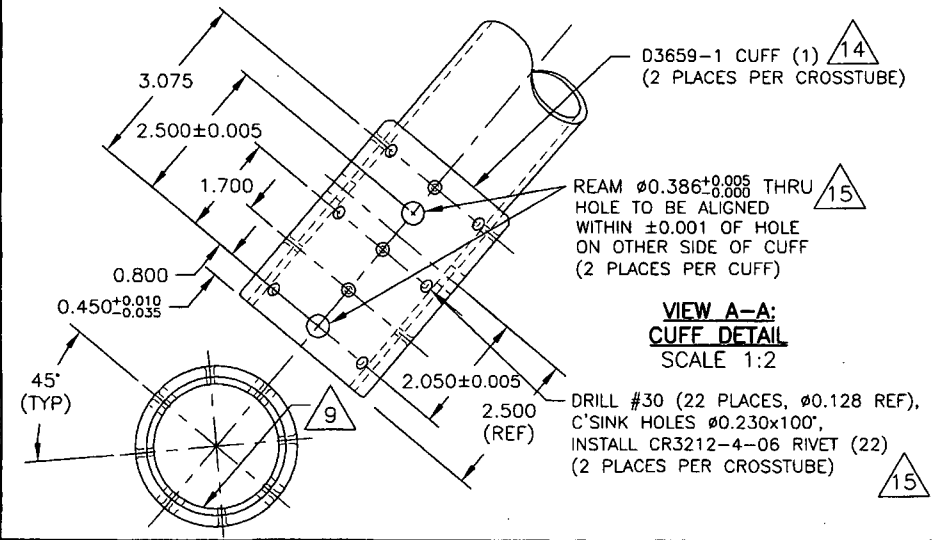
51069
JMK
08-10-26

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	

51069

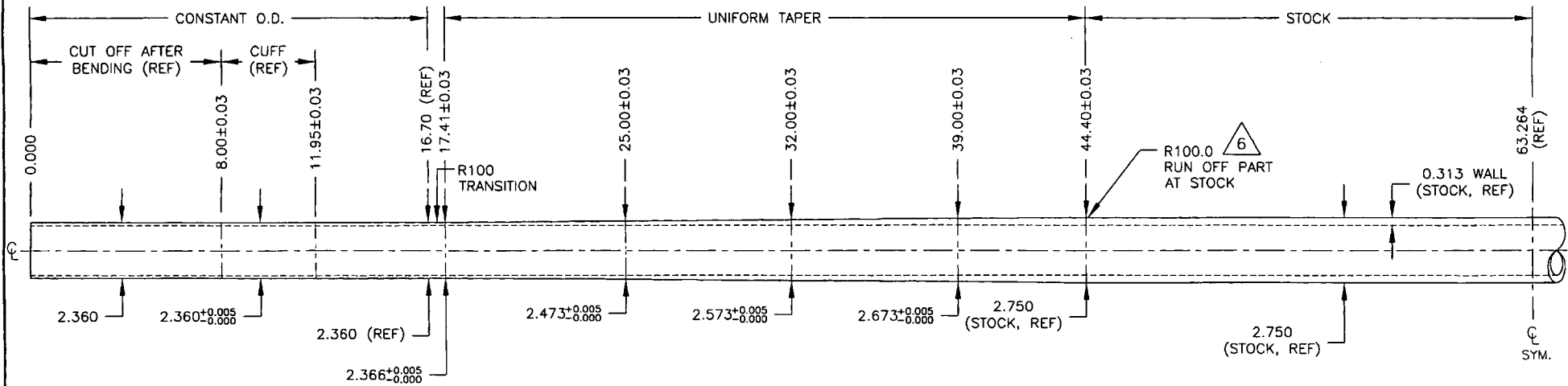


DEO ATTACHED
RELEASED
01.09.14



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		DATE		DRAWING NO.	REV. A
		07.07.07		D212-664-147	SHEET 2 OF 3
				TITLE	SCALE
				CROSSTUBE (205/212/412 LOW FWD)	1:8

510A



D212-664-147 MACHINING DETAIL

RELEASED
07.07.24
DEO ATTACHED

COPYRIGHT © 2007 BY DART AEROSPACE LTD.		DESIGN <i>qp</i>	DRAWN BY <i>qp</i>	DART	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED <i>ptt</i>	APPROVED <i>ptt</i>	DRAWING NO. D212-664-147	REV. A SHEET 3 OF 3
DATE 07.07.07		TITLE CROSSTUBE (205/212/412 LOW FWD)		SCALE 1:4	

DRAWING NO. D212-664-147	TITLE CROSSTUBE	REV. A	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D212-664-147-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>PH</i>	MFG. APPR. <i>E</i>	APPROVED <i>MD</i>		DE APPR. <i>PH</i>		
DATE 09.05.01	DATE 09.06.15	DATE 09.06.15	DATE 09/06/16		DATE 09/06/16		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D212-664-147B	CROSSTUBE ASSEMBLY (214 LOW FWD)

THE D212-664-147B CROSSTUBE HAS THE SAME PARTS LIST AS THE D212-664-147 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D212-664-147 CROSSTUBE.

RELEASED
09/06/22 *MD*

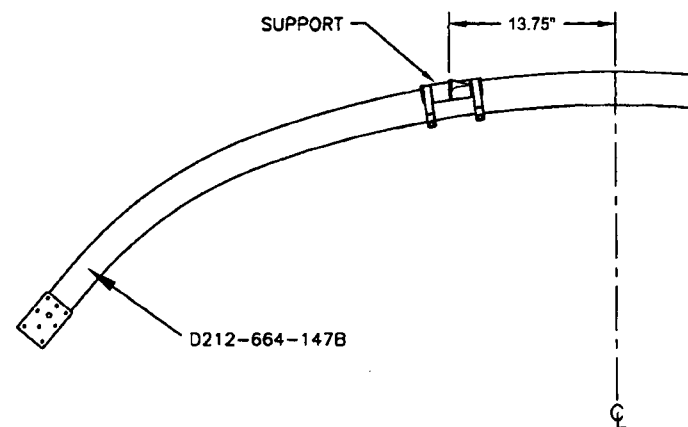


FIGURE 1 - SUPPORT INSTALLATION

5.2 STANDARD GEAR CROSSTUBES

Item	-107	-207	-209	Part Number	Description
	EX			D212-664-107	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
		X		D212-664-207	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
			X	D412-664-209	CROSSTUBE INSTALLATION, 412 STANDARD AFT
6	1			D212-664-147	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
7		1		D212-664-247	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
8			1	D412-664-249	CROSSTUBE ASSEMBLY, 412 STANDARD AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
45	2			* D3659-1	CUFF
46		2	2	* D3660-1	CUFF
47	44	44		* CR3212-4-06	RIVET (M7885/3-4-06)
48			44	* CR3212-4-07	RIVET (M7885/3-4-07)
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/-247 OR D412-664-249 ASSEMBLIES ABOVE
 NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA SKIDTUBES.

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Revision: F
 Date: 08.09.05

51065



LIQUID PENETRANT TEST REPORT

P- 15030

PAGE 1 OF 1

ION Dart Aerospace DATE Oct 28th 09 TIME AM ☐ PM ☐
Linda Lacelle ACUREN JOB NO. 188-09-1626
1270 Aberdeen St. PO/WO No. 10655
Hawkesbury WORK LOCATION Hawkesbury
ACCEPTANCE STD. ASTM 1417/021-038 REV./DATE 2005
X-Tubes D212-664-201, D212-664-107, D212-664-101, D206-667-103
EXAMINED Sob #s 51068, 51069, 52218, 52454, 52455, 52456, 52539, 52540

DESCRIPTION PROCEDURE No. LT-000 REV./DATE LT-TEC# 02 REV./DATE 02
TECHNIQUE No. LT-TEC# 02 REV./DATE 02
o. D212-664-201, D212-664-107, D212-664-101 MATERIAL AL3015N ALUM. THICKNESS 0.0045
WET FLOUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT
ON 100% EXTERNAL SURFACE

DETAILS
☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
BRAND MAGNAFLUX BLACK LIGHT S/N 8178 ☒ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
TANT ZL67 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☒ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
TANT REMOVER H₂O MINIMUM DRY TIME >10 MIN. OTHER CAL SUNCO9
OPER SK052 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE DEC 09
OPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

SURFACE
E CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
E TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F
-TS- ☐ METRIC ☐ IMPERIAL

WET FLOUORESCENT LIQUID
PENETRANT INSPECTION
CARRIED OUT ON 100%
EXTERNAL SURFACE ON X-TUBES
52540: ACCEPTABLE
Sob #s 51068: ACCEPTABLE
51069: ACCEPTABLE
52218: ACCEPTABLE
52454: ACCEPTABLE
52455: ACCEPTABLE
52456: ACCEPTABLE
52539: ACCEPTABLE

mm 09 10 28

services
ment of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood
criptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as
tions or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the
ier information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.
of Care
ing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or
made or intended by Acuren Group Inc.

TURES
REPRESENTATIVE Chantal Lavoie Frederick Chagnon DTR # E-27155
ICIAN (SIGNATURE): SIGNATURE
REPORT
(PRINT): FREDERICK CHAGNON REVIEWED BY:
NAME INITIALS
1st TECHNICIAN 2nd TECHNICIAN
CGSB LEVEL II SNT LEVEL II CGSB LEVEL SNT LEVEL
CGSB REG. No 10560 CGSB REG. No